Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Original) A system for approximating flux density of light on a retina, the system comprising:

a housing defining an inside and having an opening allowing light to pass to the inside of the housing;

a baffle coupled to the housing, the baffle replicating the facial cutoff function for the light passing to the inside of the housing;

a first detector positioned to detect the light inside the housing, the first detector producing a photopic spectral response function of the light inside the housing that approximately replicates a spectral response of foveal cones;

a second detector positioned to detect the light inside the housing, the second detector producing a scotopic spectral response function of the light inside the housing that approximately replicates a spectral response of rods in the retina; and

a processor coupled to the first and second detectors, the processor being configured to calculate a flux density of the light inside the housing based on the photopic and scotopic spectral response functions.

2. (Original) The system of claim 1, wherein the first detector includes a first filter producing the photopic spectral response function and the second detector includes a second filter producing the scotopic spectral response function.

3. (Original) The system of claim 2, wherein the first detector includes a first photocell producing a first signal weighted by the photopic spectral response function and the second detector includes a second photocell producing a second signal weighted by the scotopic spectral response function.

4. (Original) The system of claim 3, further comprising a signal transmission means for transmitting the first and second signals to the processor.

5. (Original) The system of claim 1, wherein the first detector includes a first photocell producing a first signal weighted by the photopic spectral response function and the second detector includes a second photocell producing a second signal weighted by the scotopic spectral response function.

6. (Original) A system for approximating a flux density of light on a retina, the system comprising:

a housing defining an inside and having an opening allowing light to pass to the inside of the housing;

a baffle coupled to the housing, the baffle replicating a retinal spatial response for the light passing to the inside of the housing;

a first detector positioned to detect the light inside the housing, the first detector producing a first signal approximately replicating a spectral response of cones in the retina to the light inside the housing;

a second detector positioned to detect the light inside the housing, the second detector producing a second signal approximately replicating a spectral response of rods in the retina to the light inside the housing; and

a processor coupled to the first and second detectors for receiving the first and second signals, the processor being configured to calculate a flux density of the light inside the housing based on the first and second signals.

7. (Original) The system of claim 6, further comprising a beam splitter for transmitting the light inside the housing into at least two directions.

8. (Original) The system of claim 6, further comprising a beam splitter for transmitting a first portion of the light inside the housing toward the first detector and for transmitting a second portion of the light inside the housing toward the second detector.

9. (Original) The system of claim 6, further comprising a lens coupled to the housing for focusing the light inside the housing, wherein the baffle surrounds the lens.

10. (Currently Amended) The system of claim 6, wherein the first detector includes a first filter producing ~~the~~ a photopic spectral response function and the second detector includes a second filter producing ~~the~~ a scotopic spectral response function.

11. (Currently Amended) The system of claim 10, wherein the first detector includes a first photocell producing a first signal weighted by the photopic spectral response function and the second detector includes a second photocell producing a second signal weighted by ~~to~~ the scotopic spectral response function.

12. (Currently Amended) The system of claim 6, wherein the first detector includes a first photocell producing a first signal weighted by ~~the~~ a photopic spectral response function and the second detector includes a second photocell producing a second signal weighted by ~~to the~~ a scotopic spectral response function.

13. (Original) A method of approximating a peripheral-photopic luminance of light incident on a combination of foveal and peripheral cones of a retina, the method comprising the steps of:

producing a first signal weighted by a spectral response of the foveal cones to the light and proportional to a first flux density of the light received by the foveal cones;

producing a second signal weighted by a spectral response of rods in the retina to the light and proportional to a second flux density of the light received by the rods; and

applying a function to the first and second signals to approximate the peripheral-photopic response.

14. (Currently Amended) The method of claim 13, wherein the function comprises the steps of:

calculating a first luminance on the foveal cones based upon the first ~~retinal~~ flux density;

calculating a second luminance on the rods based upon the second ~~retinal~~ flux density; and

calculating the peripheral-photopic luminance based upon the first and second luminances.

15. (Original) A method of approximating a mesopic retinal flux density of light incident on a combination of cones and rods of a retina, the method comprising the steps of:

producing a first signal weighted by a spectral response of the cones to the light and proportional to a first flux density of the light received by the cones;

producing a second signal weighted by a spectral response of the rods to the light and proportional to a second flux density of the light received by the rods; and

applying an algorithm to the first and second signals to determine the mesopic retinal flux density.

16. (Currently Amended) The method of claim 15, ~~wherein the function includes~~ further comprising the steps of:

calculating a first photopic luminance based upon the first ~~retinal~~ flux density;

calculating a second scotopic luminance based upon the second ~~retinal~~ flux density;

calculating a third peripheral-photopic luminance based upon the first and second luminances; and

calculating the mesopic flux density based upon the third peripheral-photopic luminance.

17. (Original) A machine-readable storage medium containing a set of instructions for a general purpose computer, the set of instructions implementing the steps of:

producing a first signal weighted by a spectral response of the foveal cones to the light and proportional to a first flux density of the light received by the foveal cones;

producing a second signal weighted by a spectral response of rods in the retina to the light and proportional to a second flux density of the light received by the rods; and

applying a function to the first and second signals to approximate the peripheral-photopic response.

18. (Currently Amended) A machine-readable storage medium containing a set of instructions for a general purpose computer, the set of instructions implementing the steps of:

producing a first signal weighted by a spectral response of ~~the~~ retinal cones to ~~the~~ light and proportional to a first flux density of the light received by the retinal cones;

producing a second signal weighted by a spectral response of ~~the~~ retinal rods to the light and proportional to a second flux density of the light received by the retinal rods; and

applying an algorithm to the first and second signals to determine a ~~the~~ mesopic retinal flux density.